4.7 Air Quality Impacts

As described in GEIS Section 4.4.6, potential environmental impacts to air quality could occur during all phases of the ISR facility lifecycle (NRC, 2009a). Nonradiological air emission impacts primarily involve fugitive road dust from vehicles traveling on unpaved roads and combustion engine emissions from vehicles and diesel equipment. In general, any nonradiological emissions from pipeline system venting, resin transfer, and elution will be expected to be at such low levels that they will be negligible. Such emissions were not considered in the analysis. Radon could also be released from well system relief valves, resin transfer, or elution. Potential radiological air impacts, including radon release impacts, are addressed in the Public and Occupational Health and Safety Impacts analyses in SEIS Section 4.13.

Factors NRC staff used in determining the magnitude of the potential impacts are described in GEIS Section 4.4.6 (NRC, 2009a) and include whether
(i) the air quality of the site's region of influence (ROI) is in compliance with the National Ambient Air Quality Standards (NAAQS),
(ii) the facility can be classified as a major source under the New Source Review or operating (Title V of the Clean Air Act) permit programs, and
(iii) the presence of Prevention of Significant Deterioration (PSD) Class I areas within the region could be impacted by emissions from the proposed action.

GEIS Construction Phase Summary

As discussed in GEIS Section 4.4.6.1, fugitive dust and combustion (vehicle and diesel equipment) emissions during land-disturbing activities associated with construction will be expected to be short term and reduced through BMPs (e.g., wetting of roads and cleared land areas to reduce dust emissions). Estimated ISR-construction-phase fugitive dust annual concentrations used in the GEIS are expected to be well below the PM2.5 NAAQS. Additionally, particulate, sulfur dioxide, and nitrogen dioxide concentration estimates used in the GEIS are expected to be below PSD Class II allowable increments (1 to 9 percent) and the stricter Class I increments (7 to 84 percent). NRC staff concluded in the GEIS that for NAAQS attainment areas, nonradiological impacts will be SMALL. (NRC, 2009a)

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GEIS Operations Phase Summary

GEIS Section 4.4.6.2 stated that operating ISR facilities are not major point source emitters and are not expected to be classified as major sources under the operation (Title V) permitting program. The GEIS states that the primary nonradiological emissions during operations include fugitive dust and combustion products from equipment, maintenance, transport trucks, and other vehicles. Additionally, NRC staff concluded in the GEIS that any nonradiological emissions from pipeline system venting, resin transfer, and elution will be expected to be at such low levels that they will be negligible and were not considered in the analysis. For NAAQS attainment areas, NRC staff concluded in the GEIS that nonradiological air quality impacts will be SMALL. (NRC, 2009a)

GEIS Aquifer Restoration Phase Summary

As described in GEIS Section 4.4.6.3, because the same infrastructure will be used during the aquifer restoration as during operations, air quality impacts from aquifer restoration will be similar to, or less than, those during operations. Additionally, fugitive dust and combustion emissions from vehicles and equipment during aquifer restoration will be similar to, or less than, the dust and combustion emissions during operations. For NAAQS attainment areas, NRC staff concluded in the GEIS that nonradiological air quality impacts will be SMALL. (NRC, 2009a)

GEIS Decommissioning Phase Summary
As discussed in GEIS Section 4.4.6.4, fugitive dust, vehicle emissions, and diesel emissions during land-disturbing activities from the decommissioning phase will come from many of the same sources as the construction phase. In the short term, emission levels are expected to increase given the activity (i.e., demolishing of process and administrative buildings, excavating and removing contaminated soils, and grading of disturbed areas). However, such emissions will be expected to decrease as decommissioning proceeds, and therefore, overall, impacts will be similar to, or less than, those associated with construction; will be short term; and will be reduced through BMPs (e.g., dust suppression). NRC staff concluded in the GEIS that for NAAQS attainment areas, nonradiological impacts will be SMALL. (NRC, 2009a)

Potential environmental impacts on air quality during construction, operations, aquifer restoration, and decommissioning phases of the proposed Dewey-Burdock ISR Project are discussed in the following sections. The discussion also addresses the impacts on air quality during the peak year. The peak year accounts for the time when all four phases occur simultaneously and represents the highest amount of emissions the proposed action will generate in any 1 year. The applicant identifies 2 years when all four phases will occur simultaneously and 7 years when construction and operation phases will occur simultaneously (Powertech, 2012d). Appendix C describes nonradiological air emissions information for the proposed project including emission inventories and air dispersion modeling.

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4.7.1 Proposed Action (Alternative 1)
As described in SEIS Section 3.7.2, the air quality of the Black Hills-Rapid City Intrastate Air Quality Control Region, where the proposed Dewey-Burdock ISR Project is located, is designated as an attainment area for all NAAQS pollutants and is located in a Class II area for PSD designation. The nearest PSD Class I area, Wind Cave National Park, located about 47 km [29 mi] northeast of the proposed Dewey-Burdock ISR Project, is also located in this same air quality control region and is also classified as an attainment area. The attainment status of the air quality surrounding the proposed license area provides a measure of current air quality conditions and affects considerations for allowing new emission sources.

While NRC is responsible for assessing the potential environmental impacts from the proposed action pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended, NRC does not have the authority to develop or enforce regulations to control nonradiological air emissions from equipment licensees use. For the proposed Dewey-Burdock ISR Project, this authority rests with SDDENR. To ensure the air quality of South Dakota is adequately protected, in addition to addressing all NRC regulatory requirements for radiological emissions, NRC applicants and licensees must comply with all applicable state and federal air quality regulatory compliance and permitting requirements.

The applicant submitted an air quality application to SDDENR in November, 2012 (see Table 1.6-1). Based on the information in the application, SDDENR determined that an air permit will not be required and the proposed project will not be subject to PSD requirements (SDDENR, 2013b). SDDENR's review of the applicant's air quality application included an assessment of potential greenhouse gas emissions relative to the 90,718 metric tons [100,000 short tons] standard identified in SEIS Section 3.7.2. This regulatory determination conducted by the SDDENR did not include mobile and fugitive sources as categorized in this SEIS (see Table 2.1-5). Since mobile and fugitive sources compose the majority of the project emissions, NRC staff determined that the SEIS analysis would include mobile and fugitive emission sources, as well as stationary sources. NRC staff will characterize the magnitude of air effluents from the proposed project throughout SEIS Section 4.7.1, in part, by comparing (i) the emission levels to PSD and Title V thresholds and (ii) the modeled concentrations to regulatory standards such as NAAQS. This characterization is meant to provide a context for understanding the magnitude of the proposed project's air effluents, which are mostly from mobile and fugitive sources rather than stationary sources. The NRC analysis in this SEIS is for disclosure purposes and does not document or represent the formal SDDENR determination. This is an important distinction to remember when considering the analysis in this SEIS.

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The air impact analysis includes two types of modeling: AERMOD and CALPUFF. The AERMOD dispersion model was used to predict NAAQS and PSD pollutant concentrations and the CALPUFF model was used to generate Air Quality Related Values for Wind Cave National Park. The two types of modeling results and associated analyses will be discussed separately. Additional information concerning the Dewey-Burdock emission inventory, the modeling protocol, and the results for both the AERMOD and CALPUFF analyses is available in the Ambient Air Quality Final Modeling Protocol and Impact Analysis (IML, 2013a).

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The model options and approach for the air quality impact assessment selected by NRC staff in this EIS do not completely align with EPA's guidelines on air quality models (40 CFR Part 51, Appendix W). Specifically, deviations from the regulatory default options are utilized. For example, the dry depletion option is used in the AERMOD analysis. The dry depletion option accounts for the partial settling and deposition of PM10 particles as the dust plume disperses away from the source. Similarly, the PM10 emission is not included in the CALPUFF analysis. NRC determined that it is appropriate to use dry depletion in the AERMOD analysis and exclude PM10 from the CALPUFF analysis for three main reasons. First, the nature of the project specific emission supports this decision (i.e., over 99 percent of the fugitive dust emissions are from ground-level emission sources where rapid deposition is expected). Second, modeling using the regulatory default options can overestimate short-term PM10 impacts because the rapid deposition phenomenon is not adequately addressed. Third, EISs for coal and gas development in the western United States address PM10 emission in this same manner (TRC Environmental Corporation, 2006; Marquez Environmental Services, Inc., 2010). SEIS Appendix C Section C.2.3 and Sections 3.2 and 3.9 of the Ambient Air Quality Final Modeling Protocol and Impact Analysis discuss these rationales in greater detail.

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The guideline in 40 CFR Part 51, Appendix W is used by EPA, States, and industry to prepare and review new source permits and State Implementation Plan revisions. This guideline recognizes the need to accommodate deviations from default conditions on a case-by-case basis to ensure accuracy. However, the guideline states that such deviations should be fully supported. Staff from EPA, SDDENR, and the Bureau of Land Management participated in the development of the protocol for this SEIS analysis. During the protocol development, EPA in particular expressed a strong preference for the SEIS impact analysis to rely on modeling that did not deviate from regulatory default options. For informational purposes only, at the end of impact assessment for each phase, NRC staff will present the impact analysis using the PM10 modeling results that do not implement the AERMOD dry depletion option as well as include the PM10 emission in the CALPUFF visibility analysis. However, The NRC staff based its impact analyses (i.e., SMALL, MODERATE, or LARGE) in the SEIS on modeling that deviates from regulatory default options noting the reasons why the staff chose this option.

Expressing the proposed project's emissions in concentrations can help in characterizing the magnitude of the emission levels because thresholds, such as NAAQS and PSD increments, are also expressed in concentrations. The AERMOD dispersion model was used to predict pollutant concentrations at a total of 4,220 receptors that extend in all directions from the project site and fully encompass Wind Cave National Park, the nearest Class I area. Figures 4.7-1 and 4.7-2 display the AERMOD receptor placement (i.e., locations where pollutant concentrations were estimated). The spacing between the receptors is not uniform across the model domain. In general, the receptor spacing is larger as the distance from proposed Dewey-Burdock site increases. The model domain includes fenceline, hot spot grid, intermediate grid, and coarse grid receptors. Fenceline receptors at the proposed Dewey-Burdock site boundary were placed at least every 100 m [109.4 yd] with a receptor placed at each boundary corner. For the hot spot grid, receptors were placed at 100-m [109.4-yd] spacing within a 500-m [546.8-yd] wide corridor along the western and southern portions of the project boundary and along the public road accessing the proposed site. The inclusion of the hot spot grid receptors is based on the initial modeling that predicts that high 24-hour PM10 values will be limited to this corridor. The modeling domain consists of two intermediate grids. For the first intermediate grid, receptors were placed at 500-meter [546.8-yard] spacing from the project fenceline outward to a distance of 5 km [3.11 mi] in all directions from the project center. For the second intermediate grid, receptors were placed at 1-km [0.62-mi] spacing from the outer edge of the first intermediate grid in all directions to a distance of 15 km [9.32 mi] from the project center. Figure 4.7-2 displays the receptor placement of project fenceline, hot spot grid, and intermediate grids. The modeling domain consists of two coarse grids. For the first coarse grid, receptors were placed at 5-km spacing [3.11-mi] from the outer edge of the second intermediate grid outward in all directions to a distance of 35 km [21.7 mi] from the project center. For the second coarse grid, receptors were placed at 10-km [6.21-mi] spacing from the outer edge of the first coarse grid in all directions to a distance of 55 km [34.2 mi] from the project center. Figure 4.7-1 displays the receptor placement of the coarse grids as well as the second intermediate grid. In addition, 44 fenceline receptors were placed at roughly uniform spacing around the Wind Cave National Park boundary.

The modeling was conducted for the peak year emission inventory (see Table 2.1-5) and included stationary (see Table 2.1-1), mobile (see Table 2.1-2), and fugitive dust (see Table 2.1-3) sources. Although the modeling was conducted using one year of emission data (i.e., the peak year), the model uses three years of hourly meteorological data. EPA recommends that AERMOD be run with a minimum of three years of meteorological data (IML, 2013a). Table 4.7-1 presents the AERMOD modeling results with respect to the NAAQS and Table 4.7-2 presents the results with respect to the PSD increments. The NAAQS and PSD thresholds are described in SEIS Section 3.7.2. As described in the notes for Table 4.7-1, the model results form for the NO2 annual and SO2 3 hour values are not the same as the NAAQS form. The form expresses both the statistic (e.g., maximum, average, 98th percentile, etc.) and the time period (e.g., once per year, over one year, over 3 years, etc.) associated with a value. As described in the notes for Table 4.7-2, none of the model results forms are the same as the PSD increments forms. The lack of continuity between the model results form and the NAAQS and PSD increment forms, as well as the values used to represent project level concentrations, is addressed in SEIS Appendix C, Section C2.3.1. Additional information concerning the emission inventory, AERMOD modeling protocol, and results is available in the Ambient Air Quality Final Modeling Protocol and Impact Analysis (IML, 2013a).

Protection of Class I air quality is not limited to consideration of PSD Class I increments. As described in SEIS Section 3.7.2, the Air Quality Related Values of visibility and acid deposition are also used to characterize the air quality at Class I areas. Evaluation of the impacts on the Air Quality Related Values at Wind Cave National Park was conducted using the CALPUFF model. Figure 4.7-3 identifies the CALPUFF modeling domain. In order to adequately characterize the Air Quality Related Values impacts to Wind Cave National Park, the modeling domain extended 100 km [62 mi] in all directions from the proposed project area, which includes a 50-km [31-mi] buffer around the Class I area to provide meteorological model continuity. Although the modeling domain is large, the 192 model receptors are located only within the Wind Cave National Park itself as shown in Figure 4.7-4. The CALPUFF modeling was conducted for the peak year emission inventory (see Table 2.1-5) and included stationary (see Table 2.1-1), mobile (see Table 2.1-2), and fugitive dust (see Table 2.1-3) sources.

Although the modeling was conducted using one year of emission data (i.e., the peak year), the model uses three years of hourly meteorological data. Modeled emission sources and emission rates are identical to those used in the AERMOD modeling. The visibility impacts are modeled

Table 4.7-1. Nonradiological Concentration Estimates (i.e., AERMOD Modeling Results) From Stationary, Mobile, and Fugitive Sources for the Peak Year* Compared to the National Ambient Air Quality Standards (NAAQS)

Pollutant	Averaging Time	Modeling Results Form†	Modeling Results (ug/m^3)	Background Concentration (ug/m^3)	Total Concentration (ug/m^3)	NAAQS Limit (ug/m^3)	% of NAAQS Limit
Carbon Monoxide	1 hour	Not to be exceeded more than once per year	2101.1	1097.3	3198.4	40000	8.0
	8 hour	Not to be exceeded more than once per year	262.6	315.5	578.1	10000	5.8
Nitrogen Dioxide	1 hour	98th percentile, averaged over 3 years	156.9	5.6	162.5	187	86.9
	Annual	Annual mean‡	3.3	0.4	3.7	100	3.7
Particulate Matter $PM_{2.5}$	24 hour	98th percentile, averaged over 3 years	6.9	10.9	17.8	35	50.9

Table 4.7-1. Nonradiological Concentration Estimates (i.e., AERMOD Modeling Results) From Stationary, Mobile, and Fugitive Sources for the Peak Year* Compared to the National Ambient Air Quality Standards (NAAQS) (Cont'd)

Pollutant	Averaging Time	Modeling Results Form†	Modeling Results (ug/m^3)	Background Concentration (ug/m^3)	Total Concentration (ug/m^3)	NAAQS Limit (ug/m^3)	% of NAAQS Limit
	Annual	Annual mean, averaged over 3 years	1.0	4.8	5.8	12§	48.3
Particulate Matter PM_{10} Initial Run‖	24 hour	Not to be exceeded more than once per year on average over 3 years	187.2	41.0	228.2	150	152.1
Particulate Matter PM_{10} Final Run¶	24 hour	Not to be exceeded more than once per year on average over 3 years	83.6	41.0	124.6	150	83.1
Sulfur Dioxide	1 hour	99th percentile of 1-hour daily maximum concentrations	48.3	15.7	63.9	200	31.9
	3 hour	Not to be exceeded more than once per year#	100.1	20.9	121.0	1300	9.3

Source: Modified from IML (2013a) and Powertech (2013c)
*Peak year accounts for when all four phases occur simultaneously and represents the highest amount of emission.
†the form expresses both the statistic (e.g., maximum, average, or 98th percentile) and the time period (e.g., once per year, over one year, or over 3 years) associated with the numerical value. Unless otherwise noted, the modeling results form and the NAAQS form are the same.
‡Initial modeling form (maximum annual average over a three year period) is not the same as the NAAQS form (maximum annual average over a single year). The value in this table has a form that matches the NAAQS form and was calculated from the initial model result as described in Appendix C Section C2.3.
§The table identifies the primary standard limit. The secondary standard limit is larger (i.e., 15 $\mu g/m^3$). Results that meet the primary standard will automatically meet the secondary standard.
‖Initial modeling run without dry depletion for all receptor locations.
¶Final modeling run with dry depletion for the top 50 receptor locations.
#The model result form (the highest value over any single calendar year) is not the same as the prevention of significant deterioration increment form (not to be exceeded more than once per year). The value in this table has a form that matches the NAAQS form and was calculated from the initial model result as described in Appendix C, Section C2.3.

under two scenarios. The first scenario includes the coarse particulate matter (i.e., PM_{10}) when computing the results and the second scenario excludes the PM_{10} from the computation. Project emission of fine particulate matter (i.e., $PM_{2.5}$) is included in both scenarios. The reason for the second scenario is to account for the settling and deposition of heavier particles as the dust plume dissipates from the source. NRC staff will base the impact analyses in this SEIS on the second scenario, which excludes the PM_{10} emissions from the computation. The rationale for the exclusion of the PM_{10} emissions from the computation is presented in Appendix C Section C2.3.1. For information purposes, NRC staff will also present the impact analysis for the first scenario, which includes the PM_{10} emissions in the analysis. The acid deposition impacts are modeled under one scenario using the complete emission inventory. Acid deposition impacts are modeled as the deposition of a variety of compounds containing nitrogen and sulfur. The sulfur dioxide and nitrogen oxides emissions from the proposed project constitute the potential sources of acid deposition.

Table 4.7-2. Nonradiological Concentration Values From Stationary, Mobile, and Fugitive Sources for the Peak Year* Compared to the Prevention of Significant Deterioration (PSD) Increments

Pollutant	Averaging Time	PSD Increment Form†	Class I			Class II		
			Value‡ ($\mu g/m^3$)	Increment ($\mu g/m^3$)	Percentage of PSD Increment	Value‡ ($\mu g/m^3$)	PSD Increment ($\mu g/m^3$)	Percentage of PSD Increment
Nitrogen Dioxide	Annual	Not to be exceeded during the year at any one location	0.03	2.5	1.2	3.3	25	13.2
Particulate Matter $PM_{2.5}$	24 hour	Not to be exceeded more than once per year at any one location	0.45	2	22.5	7.9	9	87.8
	Annual	Not to be exceeded during the year at any one location	0.03	1	3.0	3	4	75
Particulate Matter PM_{10} Initial Run§	24 hour	Not to be exceeded more than once per year at any one location	8	8	100	187.2	30	624
	Annual	Not to be exceeded during the year at any one location	0.15	4	3.7	9.22	17	54.1
Particulate Matter PM_{10} Final Run‖	24 hour	Not to be exceeded more than once per year at any one location	3.6	8	45	83.126	30	279
	Annual	Not to be exceeded during the year at any one location	0.15	4	3.7	6.1	17	35.9
Sulfur Dioxide	3 hour	Not to be exceeded more than once per year at any one location	1.64	25	6.6	100.1	512	19.5
	24 hour	Not to be exceeded more than once per year at any one location	0.25	5	5	12.6	91	13.8

Table 4.7-2. Nonradiological Concentration Values From Stationary, Mobile, and Fugitive Sources for the Peak Year* Compared to the Prevention of Significant Deterioration (PSD) Increments (Cont'd)

Pollutant	Averaging Time	PSD Increment Form†	Class I			Class II		
			Value‡ ($\mu g/m^3$)	Increment ($\mu g/m^3$)	Percentage of PSD Increment	Value‡ ($\mu g/m^3$)	PSD Increment ($\mu g/m^3$)	Percentage of PSD Increment
	Annual	Not to be exceeded during the year at any one location	0.00	2	0	0.6	20	3

Source: Modified from IML (2013a and b) and Powertech (2013c)
*Year accounts for when all four phases occur simultaneously and represents the highest amount of emission the proposed action would generate in any one project year
†Form expresses both the statistic (e.g., maximum, average, 98th percentile, etc) and the time period (e.g., once per year, over 1 year, over 3 years, etc.) associated with the numerical value.
‡None of the forms for the modeling results (see Table C-10) are the same as the PSD increment forms. Values were generated as described in Appendix C, Section C2.3.1 to create numbers appropriate to comparison to PSD increments.
§Initial run without dry depletion for all receptor locations.
‖Final run with dry depletion for the top 50 receptor locations.

Table 4.7-3 presents the visibility analysis results and Table 4.7-4 presents the acid deposition analysis results. NRC staff considers comparing project emission levels to thresholds useful for characterizing the magnitude of the potential impacts. Both tables compare the project specific results to appropriate thresholds. The visibility analysis in Table 4.7-3 specifies a threshold parameter identified by EPA, U.S. Forest Service (USFS), and FWS. This threshold indicates that a visibility impact on a Class I area is considered significant when the source's contribution to visibility impairment, modeled as the 98th percentile of the daily (i.e., 24-hour), results in changes in deciviews that are equal to or greater than the contribution threshold of 0.5 deciviews (IML, 2013a). Expressed in another way, a source can be reasonably anticipated to cause or contribute to visibility impairment if the 98th percentile change in light extinction (i.e., the scattering of light) is greater than 0.5 deciviews.

Two different thresholds are presented in Table 4.7-4 for comparison to the project acid deposition results. The first threshold is a concern threshold, also called the Deposition Analysis Threshold, established by USFS. Below this threshold, deposition impacts from a source are considered negligible (IML, 2013a). The second threshold is the estimated critical loads for Wind Cave National Park. The term critical load describes the threshold of air pollution deposition below which significant harmful effects on sensitive resources in an ecosystem are not expected to occur. The critical load threshold is an emerging guideline to help in the protection of Class I areas. Table 4.7-4 also presents the measured deposition rates at Wind Cave National Park. Additional information concerning these thresholds is available in the Ambient Air Quality Final Modeling Protocol and Impact Analysis (IML, 2013a).

The NRC staff conclude that the site-specific conditions at the proposed Dewey-Burdock ISR Project are not bounded by those described in the GEIS for air quality. The estimated emission levels and associated pollutant concentrations for the proposed project described in SEIS Section 2.1.1.1.6.1.1 are greater than those cited in GEIS Table 2.7-2 (NRC, 2009a). The pollutant with the highest emission level for the proposed action is particulate matter PM_{10} with most being generated in the construction phase (see Table 2.1-3). The GEIS estimates that the construction phase an ISR facility generates an annual fugitive dust concentration of 0.28 $\mu g/m^3$ based on a 10.0 metric ton emission level (NRC, 2009a). This estimate did not categorize the

Table 4.7-3. Visibility Modeling Results for the Peak Year* at Wind Cave National Park

Scenario	Statistic	Modeled 3-Year Result	Contribution Threshold	Modeled Results 2009	2010	2011
Modeled with Particulate Matter PM_{10}	98th percentile Δdv†	0.35	0.50	0.33	0.31	0.40
	Number of days > 0.5 Δdv	11	NA‡	3	4	4
	Number of days > 1 Δdv	0	NA	0	0	0
	Maximum Δdv	0.83	NA	0.55	0.83	0.58
Modeled without Particulate Matter PM_{10}	98th percentile Δdv note1	0.11	0.50	0.10	0.11	0.12
	Number of days > 0.5 Δdv	0	NA	0	0	0
	Number of days > 1 Δdv	0	NA	0	0	0
	Maximum Δdv	0.20	NA	0.15	0.20	0.15

Source: IML (2013a)
*Peak year accounts for when all four phases occur simultaneously and represents the highest amount of emission the proposed action will generate in any one project year.
†Δdv = change in deciviews
‡NA = not applicable

Table 4.7-4. Total (Wet and Dry) Acid Deposition Modeling Results for the Peak Year* at Wind Cave National Park

Parameter		Sulfur (kg/ha/yr)†	Nitrogen (kg/ha/yr)	Sulfur and Nitrogen (kg/ha/yr)
Modeled Results (3-Year Average)		0.0010	0.0016	0.0026
Concern Threshold (annual)		0.005	0.005	0.010
Wind Cave Nation Park Measurements	2009	1.00	2.72	3.72
	2010	1.16	3.56	4.72
	2011	0.90	2.87	3.77
	3-year average	1.02	3.05	4.07
Estimated Critical Load (Annual)		12	5	17

Source: IML (2013a).
*Peak year accounts for when all four phases occur simultaneously and represents the highest amount of emission the proposed action will generate in any one project year.
†Units only expressed in metric form.

particulates as PM_{10} or $PM_{2.5}$. This SEIS estimates that the construction phase of the proposed Dewey-Burdock project generates an annual PM_{10} concentration of 2.4 μg/m_3 based on a 172 metric ton [190 short ton] emission level and an annual $PM_{2.5}$ concentration of 0.41 μg/m_3 based on a 18.8 metric ton [20.7 short ton] emission level (see Tables 2.1-5, C–9, and C–10). The environmental impacts on air quality for each of the liquid waste disposal options the applicant proposed (i.e., deep well disposal via Class V injection wells, land application, or combined deep well disposal and land application) are discussed in sections 4.7.1.1 **Disposal Via Class V Injection Wells &** 4.7.1.2 Land Application